

Date: Mon, 9 Aug 93 04:30:24 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V93 #5  
To: Ham-Homebrew

Ham-Homebrew Digest                      Mon, 9 Aug 93                      Volume 93 : Issue                      5

Today's Topics:

ICOM 2GAT  
phone wiring  
Ramsey FM-440 Info wanted  
Single frequency receiver

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Sun, 8 Aug 1993 18:58:25 GMT  
From: sdd.hp.com!spool.mu.edu!nigel.msen.com!yale.edu!newsserver.jvnc.net!  
newsserver.egr.uri.edu!orca!swamik@network.ucsd.edu  
Subject: ICOM 2GAT  
To: ham-homebrew@ucsd.edu

I want to build a homebrew Headset Mike for my ICOM 2GAT 2m HT.  
How are ICOM radios keyed via the ptt line. Does my HT provide dc for  
an electret mike? Any other components, circuits needed?

tnx

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Swami Kumaresan  
swamik@orca.ele.uri.edu  
swamik@morio.e-technik.uni-kl.de  
KB1AMB@KA1AZ.RI            (Ham Radio BBS)  
kb1amb@kb1amb.ampr.org AMPRNet (Amateur Packet Radio TCP/IP Network)

KB1AMB/AA Advanced Class Amateur Radio Operator  
I Monitor 147.165/.765 Repeater  
& 20 meter band (SSB & CW)

73s

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Date: Mon, 9 Aug 1993 00:50:59 GMT  
From: pravda.sdsc.edu!news.cerf.net!usc!cs.utexas.edu!csc.ti.com!tilde.csc.ti.com!  
mksol!blair@network.ucsd.edu  
Subject: phone wiring  
To: ham-homebrew@ucsd.edu

com

Any one out there familiar with phone circuits? I've got several  
"extension" cables for phone jack to whatever (modem, phone, etc):  
flat grey cable, little plastic RJ connector with spring clip,  
4 conductors (black, red, green, and yellow). I think they are  
called modular cables.

On all but one cable the wires are reversed (b-r-g-y on one end,  
y-g-r-b on the other). But the one I'm using now to connect my  
modem to the phone jack doesn't have the 4 wires reversed. It's  
the longest cable I have, thats why I'm using it. Is this cable  
right, or did Radio Shack screw up? It works ok unless I pick  
up the phone that's connected to my modem. Neither modem nor  
phone likes that. They both get pretty upset.

I want to replace this cable with a shielded version. But I need to  
know if I should reverse the wires before crimping the connectors  
on. Also, do you strip the wires before inserting them into the  
connector? If so, how much? What should I ground the shield to?  
(the modem end or the jack end?). Or should I ground it at all?  
Thanx.

Art.

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Date: 9 Aug 1993 01:50:32 GMT  
From: munnari.oz.au!metro!sequoia!drsmith@network.ucsd.edu  
Subject: Ramsey FM-440 Info wanted  
To: ham-homebrew@ucsd.edu

Thanks for any help

Darryl vk2tds

-----  
Date: 6 Aug 93 02:43:51 EDT  
From: psinntp!arrl.org@uunet.uu.net  
Subject: Single frequency receiver  
To: ham-homebrew@ucsd.edu

In rec.radio.amateur.homebrew, gary@ke4zv.uucp (Gary Coffman) writes:  
>In article <1975@arrl.org> zlau@arrl.org (Zack Lau) writes:  
>>In rec.radio.amateur.homebrew, gary@ke4zv.uucp (Gary Coffman) writes:  
>  
>>Why not a 1.1 MHz LC filter for a high performance AM receiver?  
>>After all, people used to spend good money to have radios the size  
>>of a Collins 75A-4 receiver. You could probably cascade two  
>>6 pole filters and have plenty of room left over for the rest  
>>of the receiver.  
>  
>I'm not sure what you're saying. For a TRF receiver for the broadcast  
>band, you'd need a tunable \*tracking\* filter. I think that might be

If you look at the original post or even the subject line,  
the idea was to design the ultimate \*single\* frequency receiver.

>hard to implement. If you've switched topics to superhets, then an  
>in band IF filter probably isn't a good idea either. I agree that  
>you can do higher frequency LC filters, the component tolerances  
>become tighter for tight shape factors though.

The advantage to inductor/capacitors is the incredible dynamic range  
possible compared to crystal or mechanical filters. I've not seen  
a crystal filter that will handle 5 or 10 watts of RF. Admittedly I've  
never seen more than 3 watts from a receive antenna, but I like to have  
a safety factor :-). Of course, high Q inductors generally are big.  
You may also run into temperature drift problems. But, there are cases  
where the limitations are acceptable. You really have to run the numbers...

>  
>>Also, you might not want such a tight filter in front of your DSP  
>>hardware. A 200 kHz wide 10 MHz filter might actually make more  
>>sense, so you can better analyze band conditions. Thus, LC  
>>filters might make a lot of sense in high performance wideband  
>>superhetrodyne receivers. Of course, you probably want to stick  
>>with a narrow crystal filter for the few kHz you want to listen to.

>  
>Now I think this makes sense. The DSP should be able to process a  
>200 kHz band of signals and do any ideal filter you can figure out  
>how to program. The only problem I see is that you might run out  
>of dynamic range if there's a strong signal in the bandpass. I  
>wonder if there's a way to derive a "digital" AGC voltage that

>can be fed back to the analog front end stages.

DSP can be more than just filters. Even with a limited dynamic range, it ought to be possible to infer less than ideal conditions, such as selective fading, thunderstorms, ignition noise, etc. It might even be able to detect distinctive characteristics of certain modes of propagation, such as signals coming in over the pole or distorted by aurora. In Hawaii, the distortion on Europeans over the pole is quite distinctive at times. I think it would be nice to have your receiver alert you to various propagation conditions. And if the DSP gets crunched by the station next door, it might still be worth having for those times in which you can use it.

Zack Lau KH6CP/1

Internet: zlau@arrl.org "Working" on 24 GHz SSB/CW gear  
Operating Interests: 10 GHz CW/SSB/FM  
US Mail: c/o ARRL Lab 80/40/20 CW  
225 Main Street Station capability: QRP, 1.8 MHz to 10 GHz  
Newington CT 06111 modes: CW/SSB/FM/packet  
amtor/baudot  
Phone (if you really have to): 203-666-1541

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Date: Sun, 8 Aug 1993 17:32:41 GMT  
From: sdd.hp.com!math.ohio-state.edu!darwin.sura.net!emory!wa4mei!ke4zv!  
gary@network.ucsd.edu  
To: ham-homebrew@ucsd.edu

References <1993Aug5.082802.8402@fys.ruu.nl>, <1993Aug6.130151.23115@ke4zv.uucp>,  
<CBE5xB.6u2@kd3bj.uucp>  
Reply-To : gary@ke4zv.UUCP (Gary Coffman)  
Subject : Re: Looking for SSB-chip

In article <CBE5xB.6u2@kd3bj.uucp> chris@kd3bj.uucp (C. T. Nadovich) writes:  
>gary@ke4zv.uucp (Gary Coffman) writes:

>

>>In article <1993Aug5.082802.8402@fys.ruu.nl> vreeburg@fys.ruu.nl (Jurriaan Vreeburg) writes:

>>>I'm looking for a single chip which is able of  
>>>single-sideband-modulation. Not that I want to build my own transmitter,  
>>>but I want to do a frequency shift of an audio signal by applying the  
>>>audio signal and a 100Hz 'carrier' signal to this SSB-chip. The output  
>>>signal, as far as I know, will be: audio + 100Hz.

>

>>No, I'm afraid it wouldn't work that way. If you try to modulate a  
>>lower frequency carrier with a higher frequency signal, you wind up  
>>with an alias component that can't be filtered out. You face much  
>>the same problem with trying to use a simple mixer.  
>  
>Yes a "simple" mixer would make an alias audio+100 and audio-100, but  
>Jurrian is asking if there is a SSB mixer available at audio. Such  
>a mixer would actually be a pair of simple mixers connected to two  
>90-degree phase shift networks and an output sum/difference hybrid.  
>Such a mixer cancels most of the alias component internally.

Yeah, but you don't get audio+100 and audio-100. What you get is  
100+audio and 100-audio. Now if the audio is greater than 100 Hz,  
the frequency you get as an alias has a nasty - sign in front of  
it. Now what that really means is that the audio suffers a phase  
reversal, but it screws up your phasing SSB network and you don't  
get the cancellation you expect. That's why you have to modulate  
a carrier that's higher in frequency than the highest modulation  
frequency so the sign always stays positive.

Gary

--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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End of Ham-Homebrew Digest V93 #5

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